



Federal Communications Commission
Washington, D.C. 20554

October 1, 2014

DA 14-1426

Dr. Georg Schoene
LStelcom AG
Im Gewerbegebiet 31-33
77839 Lichtenau
Germany

Dear Dr. Schoene,

Approval is hereby granted for LStelcom AG (LStelcom) to operate its "TV bands database system" to provide service to the public. This database system will provide support to unlicensed radio devices that transmit on unused channels in the spectrum bands used by broadcast television (TV white spaces, or TVWS).

The Commission's Part 15 rules (47 C.F.R. § 15.701 *et seq.*) require that unlicensed radio transmitting devices that operate in the broadcast television bands contact an authorized database system to obtain a list of channels that are available for their operation (*i.e.*, channels not occupied by authorized radio services) at their individual locations and operate only on those channels. These devices are required to provide their geographic location, by means of a secure Internet connection, to a TV bands database system authorized by the Commission. The database will then return a list of the channels available for operation by the device for its reported location.

LStelcom, along with a number of other entities, was conditionally designated as a TV bands database administrator under the Part 15 rules in an *Order* issued by the Commission on January 26, 2011, 26 FCC Rcd 12827 (2011). Final approval for each designated database administrator's operation of a TV bands database system was subject to compliance with requirements that it: 1) supplement its previous filings with sufficient information to demonstrate how it will comply with the rule changes adopted in the *Second Memorandum Opinion and Order* (ET Docket No. 04-186, 25 FCC Rcd 18661 (2010)); 2) agree that it will not use its capacity as a database manager to engage in any discriminatory or anti-competitive practices or any practices that may compromise the privacy of users; 3) coordinate closely with the agency to ensure competency, consistency, and compliance with the rules; 4) participate in a series of mandatory workshops conducted by the Commission's Office of Engineering and Technology (OET) to address implementation issues and to ensure consistency and compliance with the rules; and 5) subject its database to real-world testing for a period of not less than 45 days. This public trial is intended to allow interested parties an opportunity to check that the database provides accurate results before being made available for actual use by TV bands devices.

LStelcom has provided the required submissions and has participated in the workshops in compliance with conditions 1 through 4. In addition, it conducted a public trial of its database system as required by condition 5 from June 24, 2013 to August 8, 2013, Public Notice released June 18, 2013, DA 13-1401. In this trial, LStelcom made its channel availability calculator, as well as its procedures for registering protected facilities, including low power auxiliary services (principally licensed and unlicensed wireless microphones), MVPD receive sites, and temporary broadcast auxiliary links that are not in the FCC

databases available for testing by the public. During the trial LStelcom received and satisfactorily resolved several comments and concerns regarding the performance of its database system. Actions taken in response to this feedback from the public included several changes to improve the functioning of the database system. LStelcom's final report on its 45-day public trial was placed in the record of the TV white spaces proceeding, ET Docket No. 04-186, and comments were requested in a Public Notice (Public Notice) released November 14, 2013, DA 13-2182.

No comments were received regarding LStelcom's final report or other aspects of the trial. Given that many parties examined the LStelcom database system during its public trial, we find the absence of comments on the database content, channel availability calculator and registration features to be indicative that the system is now satisfactory in those areas.

Based on our own examination and testing of the LStelcom database system, the results of the public trial, including comments submitted to LStelcom during the trial and LStelcom's responses to those comments, and the fact that no comments expressing concerns were submitted in response to the Public Notice on LStelcom's final report, we find that LStelcom has demonstrated that its channel availability calculator is able to properly determine the unused channels at a location that may be used by the different types of unlicensed TV bands devices. We also find that its registration procedures properly record, store and retrieve protected facilities that are not in the FCC databases. In addition, we find that the LStelcom database system properly synchronizes registration records with the TV bands databases of Spectrum Bridge, Inc., iconectiv (formerly Telcordia Technologies, Inc.), Google, Inc. and Key Bridge Global LLC using the White Space Database Administrator Group's *Database-to-Database Synchronization Interoperability Specification*, Version 1.01 September 12, 2011. We therefore find that LStelcom's TV bands database system is compliant with the Commission's rules for TV bands database systems and ready for operation. We have not yet tested this database system with an actual TV bands device. When an application for a TV bands device that accesses LStelcom's database system is processed, we will verify that the database's provisions for securing communications between a device and the database are functioning in accordance with the rules in conjunction with our testing of the device itself.

As the implementation of the Commission's plan for operation of TV bands devices proceeds, we anticipate that there may be additional changes, generally minor, in various aspects of the plan. There may also be elements of LStelcom's database system that will need to be adjusted as experience is gained with TV white spaces operations by the Commission, the database administrators, device manufacturers, and device users. We will provide instructions to LStelcom and the other database administrators to incorporate and test refinements at such time as they may be developed. We do not generally expect that such refinements will necessitate additional testing through a public trial. We anticipate that operation of these features will be verified by the OET staff. Nonetheless, we are reserving the option to request that LStelcom undertake additional public trial testing if we determine that such testing is necessary to ensure that the database systems properly determine available channels and protect authorized services. However, it is also possible that the Commission could adopt major changes to the rules for TV bands devices. Depending on the nature of such changes, the Commission could also require that the operational TV bands databases undergo additional testing and public trial to ensure that they comply with those changes.

Accordingly, we are granting approval for LStelcom AG to operate its database system to provide service to certified unlicensed devices that operate in the broadcast television bands as described above.

Authority for this action is provided in Section 0.241(h) and Sections 15.701-.715 of the Commission's rules, 47 C.F.R. § 0.241(h) and §§ 15.701-.715 and Sections 4, 5, 303, 304, 307, 336, and 554a of the Communications Act of 1934 as amended, 47 U.S.C. Secs. 154, 155, 302a, 303, 304, 307, 336, and 624a.

Sincerely,

Julius P. Knapp
Chief, Office of Engineering and Technology